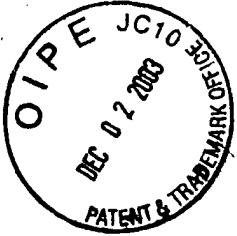


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Date of Deposit: December 2, 2003



Our Case No. 659/866
K-C Ref. No. 13,308.1

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

David A. Jones et al.

Serial No. 09/898,341

Filing Date: July 3, 2001

For SOFT HIGHLY ABSORBENT
PAPER PRODUCT CONTAINING
KETENE DIMER SIZING AGENTS

Examiner Peter Chin

Group Art Unit No. 1731

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APPELLANTS' SUPPLEMENTAL BRIEF

Assistant Commissioner for Patents
Washington, D.C. 20231

Dear Sir:

This is an appeal from the Final Rejection dated July 17, 2002, and of the Office Action dated June 5, 2003, of Claims 1-22, all the claims pending herein. Appellants initially filed an Appellants' Brief on March 17, 2003, as an appeal from the Final Office Action ("Final Action", July 17, 2002, Paper No. 6). The Examiner responded to

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Appellants' Brief by issuing an Office Action ("Response to Brief", June 5, 2003, Paper No. 9).

In the Response to Brief, the Examiner has withdrawn the finality of the Final Action, including the rejection of Claims 1-22 under 35 U.S.C. § 103(a) as being unpatentable over Voigtman et al. (U.S. Patent No. 2,996,424) or Donnelly (U.S. Patent No. 3,014,832). The Examiner has now rejected the claims under 35 U.S.C. § 103 over Voigtman et al. (U.S. Patent No. 2,996,424) or Donnelly (U.S. Patent No. 3,014,832) in view of Osberg (U.S. Patent No. 2,785,067), the "admitted state of prior art" as stated on pages 1, 2, and 5 of the instant specification, and Ampulski et al. (U.S. Patent No. 5,246,545), or Wendt et al. (U.S. Patent No. 5,730,839).

This Supplemental Appeal Brief is thus in response to the Response to Brief, and is accompanied by a Request for Reinstatement of the Appeal, pursuant to 37 C.F.R. 1.193(b) (2) (ii). Appellants' Brief, filed March 17, 2003, is hereby incorporated by reference in its entirety (see MPEP § 1208.02).

(1) REAL PARTY IN INTEREST

The present application is owned by Kimberly-Clark Worldwide, Inc.

(2) RELATED APPEALS AND INTERFERENCES

There are no known appeals or interferences, which will directly affect or be directly affected by or have a bearing on this appeal.

(3) STATUS OF CLAIMS

Claims 1-22 are pending herein, and all are appealed.

(4) STATUS OF AMENDMENTS

A Request for Reconsideration on was filed April 26, 2001 [Paper No. 5] after Non-Final Rejection. The Final Rejection of July 17, 2002 [Paper No. 6] indicates that this Request for Reconsideration was considered. An Appeal Brief was filed on March 17, 2003 [Paper No. 8], which did not amend the claims as submitted on April 26, 2001 [Paper No. 5]. Thus, the claims are in the form as referred to in the Final Rejection of July 17, 2002.

(5) SUMMARY OF INVENTION

In an embodiment of the invention, there is provided a soft highly absorbent tissue product comprising long paper making fibers (p. 6, line 6), a surface active agent (p. 4, line 24 – p. 5, line 3), and a ketene dimer sizing agent (p. 4, lines 3-12).

In another embodiment of the invention, there is provided a soft absorbent paper tissue product comprising paper making fibers (p. 6, lines 6-13) and at least about 1 pound of a ketene dimer sizing agent per ton of paper product (p. 11, lines 1-10), the tissue having an absorbency rate of less than about 10 seconds (p. 10, lines 11-17).

In yet another embodiment of the invention, there is provided a soft absorbent tissue sheet comprising a first layer and a second layer (p. 6, lines 14-17), the first layer comprising predominately long paper making fibers (p. 6, line 6) and the second layer comprising predominantly short paper making fibers (p. 6, line 7); at least one of the layers further comprising a ketene dimer sizing agent and a surface active agent (p. 4, lines 3-12 and line 24 – p. 5, line 3); and the layer comprising the ketene dimer and surface active agent being wettable by water (p. 7, lines 22-29).

In yet another embodiment of the invention, there is provided an absorbent paper sheet having improved softness comprising a first sheet surface and a second sheet surface (p. 6, lines 14-17); a layer comprising paper making fibers (p. 6, lines 6-13), the layer having a surface, the surface of the layer corresponding to a surface of the paper sheet (p. 6, lines 14-17), the surface of the layer having a ketene dimer sizing agent therein (p. 4, lines 3-12); the surface of the sheet having a surface active agent therein (p. 4, line 24 – p. 5, line 3); and the wettability of the sheet being equivalent to a sheet of

the same composition but not having the ketene dimer sizing agent therein (p. 7, lines 22-27).

In yet another embodiment of the invention, there is provided an absorbent paper sheet having improved softness comprising cellulose paper making fibers (p. 6, lines 6-13) and a ketene dimer sizing agent (p. 4, lines 3-12) and a surface active agent (p. 4, line 24 – p. 5, line 3); the sizing of the sheet being no greater than about three times the sizing of a sheet of similar composition but not having the ketene dimer sizing agent and surface active agent (p. 7, lines 27-29).

In yet another embodiment of the invention, there is provided a method of making a soft highly absorbent paper sheet product having improved softness comprising: (a) forming an aqueous slurry comprising paper making fibers in a pulper (p. 5, lines 4-7); (b) combining a the ketene dimer sizing agent with the paper making fibers (p. 6, lines 18-27); (c) combining a surface active agent with the paper making fibers (p. 6, lines 27-32); and (d) removing the water from the aqueous slurry (p. 5, lines 16-20).

In yet another embodiment of the invention there is provided a soft highly absorbent paper product comprising a blended base sheet (p. 6, line 16), a ketene dimer sizing agent (p. 4, lines 3-12), and a surface active agent (p. 4, line 24 – p. 5, line 3).

(6) ISSUES

- 1. Whether Claims 1-22 are obvious under 35 USC § 103 over U.S. Patent No. 2,996,424 to Voigtman et al. or U.S. Patent No. 3,014,832 to Donnelly, in view of Appellants' Specification and U.S. Patent No. 5,246,545 to Ampulski et al.**
- 2. Whether Claims 1-22 are obvious over Voigtman or Donnelly in view of Ampulski et al. and further in view of U.S. Patent No. 2,785,067 to Osberg.**
- 3. Whether Claims 4-8 are obvious over Voigtman or Donnelly in view of Ampulski et al. and further in view of U.S. Patent No. 5,730,839 to Wendt et al.**
- 4. Whether Claims 18-20 should be subject to an obviousness-type double patenting rejection in view of U.S. Patent No. 6,027,611 to McFarland.**
- 5. Whether Claims 18-20 are indefinite under 35 U.S.C. § 112, second paragraph.**

(7) GROUPING OF CLAIMS

For the purposes of this appeal the claims do not stand or fall together. Claims 1, 4-17 and 21-22 are distinct from Claims 2-3, and both of these groups are distinct from Claims 18-20. Reasons why these groups of claims are separately patentable are given below.

(8) ARGUMENT

1. Description of the present invention

Appellants have developed a paper product that is both soft and highly absorbent. It has been discovered that the use of ketene dimer sizing agents in tissue and towel increases the softness of these products, and that wetting agents or surfactants can be used in conjunction with these sizing agents to eliminate sizing without eliminating the softness benefit. The addition of the wetting agent to the sheet prevents the sizing agent from materially affecting the watability of the sheet, i.e., the sheet is not sized. Thus, the rate of water absorption and the total amount of water that a sheet softened with a ketene dimer sizing agent and wetting agent can absorb is not materially different from an equivalent sheet that does not have those agents. These sheets can have as much as a one to two fold increase in sizing compared to a sheet without the sizing agent, and still exhibit sufficient hydrophilicity. Thus, the increased softness benefits of the ketene dimer sizing agents are obtained without any material loss of water absorbitivity or hydrophilicity.

The pending claims that cover the present invention may be organized generally into three separately patentable groups. The first group, including Claims 1, 4-17 and 21-22, recites an absorbent sheet or product that includes both a surface active agent and a ketene dimer sizing agent. The second group, including Claims 2-3, recites an absorbent sheet including at least about 1 pound of a ketene dimer sizing agent per ton of paper product, where the paper product has an absorbency rate of less than about 10 seconds. The third group, including Claims 18-20, recites a method of making an absorbent sheet product including combining a ketene dimer sizing agent with paper making fibers and combining a surface active agent with paper making fibers.

The first and second groups are separately patentable as subcombinations usable together (MPEP 806.05(d)). A sheet or product including both a surface active agent and a ketene dimer sizing agent may be used in applications where an absorbency rate greater than about 10 seconds is permissible. The first and second groups are each separately patentable relative to the third group as process of making and product made (MPEP 806.05(f)). A sheet or product including a surface active agent and a ketene dimer sizing agent can be made by a materially different process,

such as by applying a liquid containing a ketene dimer sizing agent and/or a surface active agent to a preformed sheet or product and evaporating the liquid.

2. Claims 1-22 are not obvious under 35 USC § 103 over U.S. Patent No. 2,996,424 to Voigtman et al. or U.S. Patent No. 3,014,832 to Donnelly, in view of Appellants' Specification and U.S. Patent No. 5,246,545 to Ampulski et al.

The claims at issue stand rejected as obvious over U.S. Patent No. 2,996,424 to Voigtman et al. ("Voigtman") in view of U.S. Patent No. 5,246,545 to Ampulski et al. ("Ampulski"). In the alternative, Claims 1-22 stand rejected as obvious over U.S. Patent No. 3,014,832 to Donnelly ("Donnelly") in view of Ampulski. As conceded by the Examiner, both Voigtman and Donnelly are "silent as to the joint use of a surfactant with ketene dimer" (Response to Brief, p. 3). However, Ampulski does not teach or suggest the use of a surface active agent in combination with a ketene dimer sizing agent, nor does Ampulski provide further motivation to modify either Voigtman or Donnelly to include the use of a surface active agent, such as a surfactant, with the ketene dimer release agent disclosed therein.

The Examiner asserts that Voigtman and Donnelly teach the application of a release agent, including ketene dimers, onto tissue paper webs. Also, the Examiner asserts that Donnelly teaches the incorporation of an additional component with the release agent, to enhance the properties of the tissue web. The Examiner further asserts that Ampulski teaches adding a surfactant to a papermaking additive, and that the addition of the surfactant can offset the loss of wetability and absorbency.

The Appellants respectfully disagree with the Examiner's characterization of all of these references, and point out that the Examiner's inferences are in opposition to the plain meaning of the references. In actuality, Donnelly and Voigtman teach a wide variety of different categories of release agents including soaps, emulsified mineral oil, wax emulsions, silicone emulsions, diglycol laurate, polyethylene glycol di-laurate, emulsified fatty acids, triethylene glycol, sulfonated castor oil, rewetting agents, softening agents, and quaternary ammonium chlorides (Voigtman, col. 7, lines 4-18 and Donnelly, col. 5, lines 8-22). Donnelly and Voigtman, however, do not teach or suggest

that all of the release agents listed are equivalent or are obvious substitutes for each other. In fact, Voigtman states that:

The selection of the particular release agent may depend not only on its oiliness value but also on other characteristics of or imparted by particular release agents: water repellency, absorbency, softness, color, toxicity, odor, bacterial and antimycotic properties, and the like.

Col. 7, lines 34-40 (see *also*, Donnelly, col. 5, lines 57-59). This statement teaches away from the characterization that all release agents may be treated as equivalents. The release agents have different properties, as taught by Donnelly and Voigtman, and those properties are determinative of the particular release agent suitable for the user's intended purpose.

Moreover, the Examiner's assertion that Donnelly teaches that additional components may be added to the ketene dimer emulsion seems to be based on Example I, Col. 8 that discloses that mineral oil may be "treated to induce therein cationic paper softening agent properties." As noted above, mineral oils and ketene dimers have different properties and cannot be treated as simple equivalents. For example, mineral oil is inert and inactive, whereas ketene dimers are volatile and very reactive. This one example of Donnelly does not teach the use of an additional component with a ketene dimer sizing agent. Rather, it only discloses that mineral oil may be treated to modify its properties prior to its use as a release agent (Donnelly, col. 8, lines 66-73). This disclosure in no way amounts to a teaching or suggestion to use additional components with non-equivalent release agents such as ketene dimers.

Even if Donnelly or Voigtman were to teach the addition of other components to a ketene dimer release agent emulsion, Ampulski does not teach or suggest that the additional component should be a surfactant. Ampulski does not contain a general teaching that all chemical papermaking additives may be enhanced by the addition of a surfactant to the emulsion. Rather, Ampulski is directed **only** to chemical papermaking additives that are strength additives, absorbency additives, softener additives, aesthetic additives, and mixtures thereof (col. 15, lines 9-11). It is to these categories of papermaking additives that the addition of a surfactant is taught, not to ketene dimer

release agents. Moreover, the use of the papermaking additives and surfactants of Ampulski as the release agents of Donnelly and Voigtman would not provide each and every element of Appellants' claims, as Ampulski does not disclose ketene dimer sizing agents.

The Examiner attempts to relate Ampulski to Donnelly and Voigtman by equating as hydrophobic additives the polysiloxanes of Ampulski and the ketene dimer release agents of Donnelly and Voigtman (Response to Brief, p. 4, lines 3-7). However, this argument is not supported by the evidence on the record. As noted above, Donnelly and Voigtman teach that in their use as release agents, ketene dimers and silicones are not equivalent. A reactive ketene dimer is far removed from an inert silicone emulsion. Thus, these two substances have different properties and would therefore be selected for different applications. Any teachings in Ampulski regarding the addition of a surfactant to a polysiloxane softening agent (col. 5, lines 38-47) are inapplicable to the ketene dimer release agents of Donnelly and Voigtman.

In attempting to equate the hydrophobic additives of Ampulski with the hydrophobic ketene dimers, the Examiner has asserted that Appellants' specification lends credence to this combination of references. Only pages 1 and 2 of Appellants' specification are cited, although the first paragraph of this rejection also includes page 5 of the specification. The statements in Appellants' specification at pages 1, 2 and 5 actually teach away from any arguments of obviousness over the cited references. In fact, the Examiner has succeeded in pointing out the portions of the specification that disclose (a) the previous disadvantages of using ketene dimers (p. 1, lines 29-32; and line 35 – p. 2, line 4), (b) the statement of purpose of the work (p. 2, lines 8-13), and (c) the surprising and unexpected results of the present invention (p. 5, lines 2-3). Thus, Appellants traverse the Examiner's assertion that these portions of the specification constitute prior art. As noted in the decision of *In re Dow Chemical Co.*, 5 USPQ2d 1531 (Fed. Cir. 1988), "... a patent applicant's statement of the purpose of the work is not prior art." Moreover, with respect to the surprising and unexpected results that the Examiner has attempted to assert as prior art, Appellants note that the Examiner has responded to Appellants' previous arguments regarding the surprising and unexpected results described in the specification at page 10, lines 5-17 (Appellant's Brief, p. 11-12).

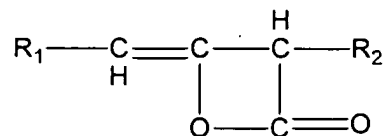
The Examiner asserts that Donnelly, Voigtman and Ampulski together show that Appellants' results would be expected (Response to Brief, p. 5-6). However, without a valid establishment of the additives of Ampulski as equivalents to the release agents of Donnelly and Voigtman, such a conclusory statement is no more than a classic hindsight reconstruction of the references using Appellants' specification as a guide (MPEP 2144.06).

A *prima facie* case of obviousness over Voigtman or Donnelly in view of Ampulski has not been presented. There is no evidence on the record of any suggestion or motivation to combine the disclosures of the references. Moreover, the combination of the references, even if proper, fails to teach or suggest each and every element of the claims. Accordingly, Appellants' claims are not obvious under 35 USC § 103 over Voigtman, Donnelly or Ampulski, alone or in combination.

3. Claims 1-22 are not obvious over Voigtman or Donnelly in view of Ampulski et al. and further in view of U.S. Patent No. 2,785,067 to Osberg.

Although it is unclear, it appears that the Examiner has rejected the claims at issue as obvious over Voigtman or Donnelly in view of Ampulski and further in view of U.S. Patent No. 2,785,067 to Osberg et al. ("Osberg"). As discussed above, the combination of Donnelly or Voigtman and Ampulski does not provide a *prima facie* case of obviousness. Osberg does not provide further motivation to modify the combination of Voigtman or Donnelly and Ampulski to include the use of a surface active agent, such as a surfactant, with the ketene dimer sizing agent disclosed therein.

The issue of whether it is conventional practice to add a surfactant to an aqueous emulsion of a ketene dimer has already been addressed by Appellants, see Appellants' Brief, Paper No. 8, pages 5-8 (section (8)2.). As noted in that section, a ketene dimer sizing agent includes the actual ketene dimer compound having the general structure



as well as other ingredients in the formulation, such as those described in the patents listed in the "Background" section of the specification (Specification, p.4, lines 3-12; and

p. 1, lines 4-28). Thus, any disclosure in these patents regarding preparing ketene dimer sizing agents by forming emulsions of ketene dimer compounds with surface active agents is insufficient to make obvious Appellants' claimed product or process. The surface active agent used by Appellants is separate from and in addition to any surface active agent that is included in the formulation of the ketene dimer sizing agent.

The Examiner has asserted that Osberg provides evidence that it is well known to add a surfactant to a ketene dimer (Response to Brief, p. 3, lines 12-14). However, Osberg does not appear to disclose anything unique regarding ketene dimer sizing agents, relative to the disclosures of the patents listed in the "Background" section of the specification. It is noted that the Examiner has not provided any citations to specific statements within Osberg. Accordingly, Osberg does not provide any further disclosure, teaching or suggestion that would augment the rejection over Voigtman or Donnelly in view of Ampulski.

A *prima facie* case of obviousness over Voigtman or Donnelly in view of Ampulski and further in view of Osberg has not been presented. There is no evidence on the record of any suggestion or motivation to combine the disclosures of the references. Moreover, the combination of the references, even if proper, fails to teach or suggest each and every element of the claims. Accordingly, Appellants' claims are not obvious under 35 USC § 103 over Voigtman, Donnelly, Ampulski, or Osberg alone or in combination.

4. Claims 4-8 are not obvious over Voigtman or Donnelly in view of Ampulski et al. and further in view of U.S. Patent No. 5,730,839 to Wendt et al.

Claims 4-8 stand rejected as obvious over Voigtman or Donnelly in view of Ampulski and further in view of U.S. Patent No. 5,730,839 to Wendt et al. ("Wendt"). Wendt has been asserted as teaching multilayer tissue products having a layer of hardwood and another layer of softwood fibers and as teaching tissue products having more than two layers.

The combination of Voigtman, Donnelly, Ampulski and Wendt fails to provide each and every element of the claims. Dependent Claims 4-8 include all of the elements of independent Claim 1. As shown above, Voigtman, Donnelly and Ampulski,

alone or in combination, do not teach or suggest each and every element of Claim 1. Wendt does not teach or suggest, nor does the Examiner asserted that Wendt teaches or suggests, a soft highly absorbent tissue product comprising a surface active agent and a ketene dimer sizing agent. Because the combination of Voigtman, Donnelly, Ampulski and Wendt does not teach or suggest each and every element of dependent Claims 4-8, a *prima facie* case of obviousness has not yet been presented.

5. Claims 18-20 should not be subject to an obviousness-type double patenting rejection in view of U.S. Patent No. 6,027,611 to McFarland.

Claims 18-20 stand rejected under the judicially created doctrine of obviousness-type double patenting as being obvious over Claims 1-10 of U.S. Patent No. 6,027,611 to McFarland ("McFarland"). The Examiner asserts that although the conflicting claims "are not patentably distinct from each other because the present claims [Claims 18-20] are open to multi-suspension headbox for making the absorbent paper." Page 5.

The Examiner has not presented a *prima facie* case of obviousness for Claims 18-20 relative to Claims 1-10 of McFarland. An obviousness-type double patenting determination parallels the determination for obviousness under 35 U.S.C. § 103(a) in view of a reference (MPEP § 804, section II B 1.). Accordingly, the claims of the asserted patent must include a teaching or suggestion of each and every element of the claims (MPEP 2143).

The Examiner points out that the claims of McFarland include the use of a multi-suspension headbox for use in making absorbent paper. However, this has no bearing on the elements of Claims 18-20. The claims of McFarland do not disclose the use of a surface active agent recited in Appellants' Claims 18-20, nor do the claims of McFarland teach or suggest such a use of a surface active agent. Because Claims 1-10 of McFarland do not teach or suggest each and every element of the claimed invention, a *prima facie* case of obviousness type double-patenting has not yet been presented.

6. Claims 18-20 are neither obvious under 35 USC § 103 over the cited references, nor indefinite under 35 U.S.C. § 112, second paragraph.

Claims 18-20 stand rejected under 35 U.S.C. § 103(a) as being obvious over the cited references, and also stand rejected under 35 U.S.C. § 112, second paragraph as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

With respect to the obviousness rejections, Appellants point out that the Examiner has continued to summarily reject Claims 18-20, which recite a method of making a soft highly absorbent paper product, in combination with the rejections of the above-addressed product claims. Even if a *prima facie* case of obviousness could be made against product Claims 1-17 and 21-22, it would not necessarily follow that a *prima facie* case of obviousness had been established against the method Claims 18-20. Claims 18-20 recite separate combinations of the ketene dimer with paper making fibers and of the surface active agent with the paper making fibers. The cited references do not disclose, teach or suggest such separate combinations, nor has the Examiner asserted that the references disclose, teach or suggest such separate combinations. In fact, the Examiner has continued to attempt a combination of various references to provide a teaching of adding a surfactant to a ketene dimer, in contrast to a teaching of separately adding a surfactant and a ketene dimer to paper making fibers. The Examiner, therefore, has yet to address the merits of method Claims 18-20 with regard to the cited references.

Beyond the newly asserted obviousness-type double patenting rejection, the only specific rejection that the Examiner has articulated against Claims 18-20 is that of indefiniteness. The Examiner asserts that Claim 19 appears redundant in view of Claim 18 because Claim 18 already claims ketene dimer addition before dewatering. Claim 20 is also rejected as being in conflict with Claim 18 because Claim 20 recites a method in which the sizing agent is combined with the paper making fibers after the removal of the water from the aqueous slurry.

Independent Claim 18 does not limit the method of making a soft highly absorbent paper product to a method in which the ketene dimer sizing agent is combined with the paper making fibers exclusively prior to the removal of water from the

slurry or after the removal of water from the slurry. Rather, Claim 18 recites a list of steps that are included in the claimed method but does not limit the order of the steps. In contrast, dependent Claims 19 and 20 do limit the order of the steps such that the ketene dimer sizing agent is combined with the papermaking fibers prior to the removal of water from the slurry (Claim 19) or after the removal of water from the slurry (Claim 20) (Appellants' Specification, p. 6, lines 18-32). The Examiner's interpretation of Claim 18 as limited to methods in which the ketene dimer sizing agent is added prior to the removal of water from the slurry is inconsistent with the guidelines of MPEP 2111. When Claim 18 is properly given its broadest reasonable interpretation, dependent Claims 19 and 20 clearly are neither redundant nor in conflict with Claim 18, as each of the dependent claims further define the method of Claim 18.

Claims 18-20 fully meet the requirements of 35 U.S.C. § 112, 2nd paragraph. Claims 18-20 also fully meet the requirements of 35 U.S.C. § 103, as no *prima facie* case of obviousness has been asserted or established against these claims.

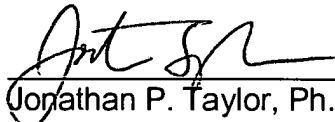
5. Conclusion

The cited references, either alone or in combination, do not provide a valid basis for a *prima facie* obviousness rejection of the present claims. Also, Claim 18-20 are not invalid for failing to point out and particularly claim what Appellants regard as their invention. Accordingly, Appellants submit that the present invention is fully patentable over Voigtman or Donnelly, alone or in combination with Ampulski, Osberg, Appellants' own specification, Wendt, or McFarland, and the Examiner's rejection should be REVERSED.

Respectfully submitted,



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APPENDIX

Claims 1-22 are pending.

1. A soft highly absorbent tissue product comprising long paper making fibers, a surface active agent, and a ketene dimer sizing agent.
2. A soft absorbent paper tissue product comprising paper making fibers and at least about 1 pound of a ketene dimer sizing agent per ton of paper product, the tissue having an absorbency rate of less than about 10 seconds.
3. The paper product of Claim 2 in which the product comprises three layers.
4. A soft absorbent tissue sheet comprising: a first layer and a second layer; the first layer comprising predominately long paper making fibers and the second layer comprising predominantly short paper making fibers; at least one of the layers further comprising a ketene dimer sizing agent and a surface active agent; and the layer comprising the ketene dimer and surface active agent being wettable by water.
5. The soft tissue sheet of Claim 4, in which the sheet is creped.
6. The soft tissue sheet of Claim 4, in which the sheet is through dried.
7. The soft tissue sheet of Claim 4, in which the absorbency rate is less than about 10 seconds.
8. The tissue of Claim 4 in which the tissue sheet comprises a third layer.
9. An absorbent paper sheet having improved softness comprising: a first sheet surface and a second sheet surface; a layer comprising paper making fibers; the layer having a surface; the surface of the layer corresponding to a surface of the paper sheet; the surface of the layer having a ketene dimer sizing agent therein; the surface of the sheet having a surface active agent therein; and the wettability of the sheet being equivalent to a sheet of the same composition but not having the ketene dimer sizing agent therein.

10. The paper sheet of Claim 9, in which the sheet is a bath tissue.
11. The paper sheet of Claim 10, in which the bath tissue has a second layer comprising paper making fibers.
12. The paper sheet of Claim 9, in which the sheet is a towel product.
13. The paper sheet of Claim 12, in which the towel product has a second layer comprising paper making fibers.
14. The paper sheet of Claim 9, in which the sheet is a facial tissue.
15. The paper sheet of Claim 14, in which the facial tissue has a second layer comprising paper making fibers.
16. The paper sheet of Claim 9 comprising a second and a third layer; and the surface of the third layer corresponding to the second sheet surface.
17. An absorbent paper sheet having improved softness comprising cellulose paper making fibers and a ketene dimer sizing agent and a surface active agent; the sizing of the sheet being no greater than about three times the sizing of a sheet of similar composition but not having the ketene dimer sizing agent and surface active agent.
18. A method of making a soft highly absorbent paper sheet product having improved softness comprising:
 - (a) forming an aqueous slurry comprising paper making fibers in a pulper;
 - (b) combining a the ketene dimer sizing agent with the paper making fibers;
 - (c) combining a surface active agent with the paper making fibers; and,
 - (d) removing the water from the aqueous slurry.
19. The method of Claim 18, in which the ketene dimer sizing agent is combined with the paper making fibers prior to the removal of water from the slurry .

20. The method of Claim 18, in which the ketene dimer sizing agent is combined with the paper making fibers after the removal of water from the aqueous slurry.

21. A soft highly absorbent paper product comprising a blended base sheet, a ketene dimer sizing agent, and a surface active agent.

22. The soft highly absorbent paper product of Claim 21, in which there are at least 1 ½ pounds of the sizing agent per ton of paper product, and the product has a water absorbency rate of less than 10 seconds.